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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,358	03/12/2004	Peter R. Werp	5236-000420	6341
28997	7590	09/25/2006	EXAMINER	
HARNES, DICKEY, & PIERCE, P.L.C			WEATHERBY, ELLSWORTH	
7700 BONHOMME, STE 400			ART UNIT	
ST. LOUIS, MO 63105			PAPER NUMBER	

3768

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/799,358

**Applicant(s)**

WERP ET AL.

**Examiner**

Ellsworth Weatherby

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/20/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 8/20/04 was filed. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsutani (USPN 4,875,485).

Regarding claims 1 and 2, Matsutani '485 discloses two magnets disposed on opposite sides of an operating region (figure 1, ref. 19 & 20), each magnet having a

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positioner and a controller for coordinated movement about an operating region (col. 3, lines 20-34). Matsutani '485 also discloses a support for mounting the at least two magnet units adjacent to the operating region in the subject (col. 4, lines 51-60). Matsutani '485 further discloses a controller that maintains a homogeneous magnetic field while the locations of magnet units relative to the operating region change (col.3, lines 34-44).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-20, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani '485 in view of Creighton et al. (USPN 6,459,924).

Regarding claims 3,4,6,7,12-18,25 and 27, Matsutani '485 discloses a subject support (col. 3, lines 19-20); at least two magnet units disposed on opposite sides of the operating region, such that they are collinear (figure 1, ref. 19 & 20); and moveably mounted for coordinated movement about the operating region, each magnet unit

comprising a magnet, and a positioner for changing the position of the magnet while maintaining a homogeneous field (col. 3, lines 12-34).

Matsutani '485 does not disclose a positioner for changing the position of the magnet in the unit to change the net direction of the field while the field is applied by the at least two units.

Matsutani '485 also does not disclose that the magnets are rotatable about the operating region in a transverse plane of the subject.

Creighton et al. '924 discloses a controllable pivot for changing the position of the magnet in the unit to change the net direction of the field while the field is applied by the at least two units to orient or navigate a magnetically responsive device (col. 5, lines 34-39).

Creighton et al. '924 also teaches having two magnet units (col. 6, lines 66-67), and wherein the magnet units have an arcuate support arm that permits rotation about the operating region in a transverse plane of the subject (figure 3B, ref. 54).

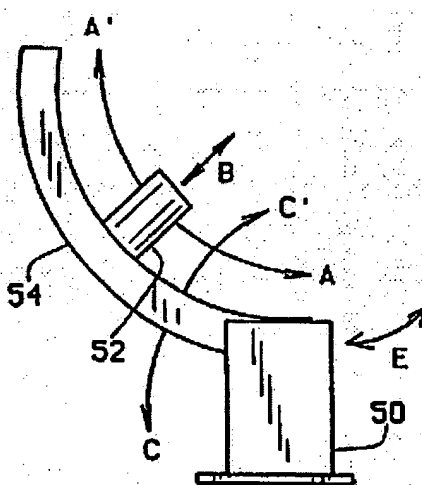


FIG. 3B

Creighton et al. '924 further teaches having two stanchions that are disposed on opposite sides of the patient support, each mounted with identical arcuate support arms, thus permitting rotation about a parallel axis (col. 4. lines 66-67).

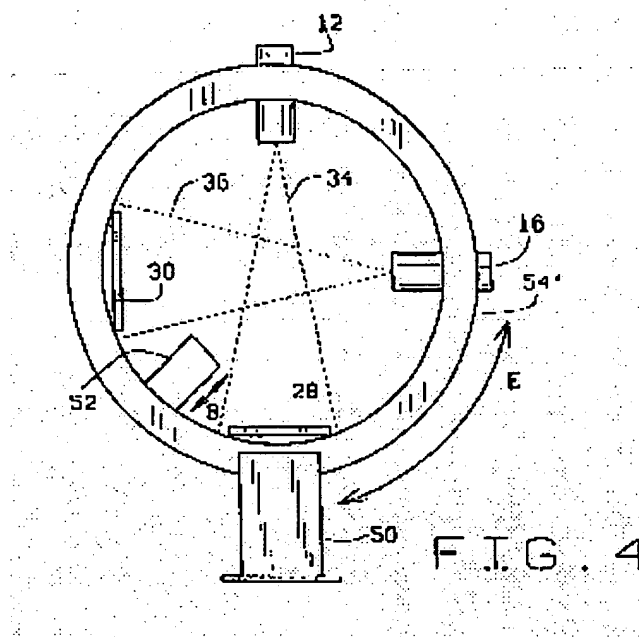
It would have been obvious to modify the movable opposing magnet assembly of Matsutani '485 with the pivoting magnets in the arcuate support arms which are mounted on the two oppositely disposed stanchions as taught by Creighton et al. '924. The motivation to do so would be to supply significant fields in all directions and all locations in an operating region of a patient.

Regarding claims 5,8-11,19,20,22 and 26, the modified invention of Matsutani '485 discloses the invention substantially as claimed except for the controller controlling the positioners of each magnet unit to adjust the positions of the magnets as the magnet units move to maintain the magnetic field direction to selectively orient a magnetically responsive device and the imaging system.

Creighton et al. '924 discloses: a controlling apparatus may be provided and coupled to articulation systems, the pair of axial coils, the articulation and rotation systems, as well as the imaging system (figure 4, refs. 16,30), as well as control current in a coil used as magnet (col. 6, lines 21-32). Furthermore, Creighton et al. '904 incorporates by reference robotic arm control in response to user input (cols. 5-6, lines 54-67 & lines 1-7).

Creighton et al. '924 also discloses an imaging system (figure 4, refs. 16,30) comprising a movable support, an imaging beam source (ref. 16), an imaging beam

receiver (ref. 28) and a controller for coordinating the movement of the imaging system and the magnets (col. 5, lines 13-19).



Creighton et al. '924 further discloses a controller that controls the positioners, and the strength and direction of the magnetic field in response to movement of the magnets (col. 8, lines 61-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the modified moveable opposing magnet arrangement of Matsutani '485 to include the controller of Creighton et al. '924. The motivation to do so would be to allow for close coordination of magnetic surgery with concurrent imaging and would be particularly useful for surgery in sensitive areas of a patient's body such as the brain.

7. Claims 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani '485 in view of Creighton et al. '924 in further view of Ritter et al. (USPN 6,241,671).

The modified invention of Matsutani '485 describes the invention substantially as claimed except for the imaging system and adjusting the strengths and positions of the magnets to maintain the magnetic field while accommodating movement of the imaging system. The modified invention also does teach the determination of the magnetic field applied by the magnet units being determined based upon a mathematical model or a lookup table.

Regarding claim 21, Ritter et al '671 discloses that the magnet assembly can rotate about a longitudinal axis parallel to the longitudinal axis of the bed 60. The magnet assembly can preferably turn about 20 degrees in either direction. This movement helps prevent shading of the imaging beam in certain circumstances (cols. 8-9, lines 65-67 & lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the modified magnet assembly of Matsutani '485 to include the adjustable positioning of the magnets to accommodate movement of the imaging system as taught by Ritter et al. '671. The motivation to do so would be to provide the real-time images from various angles during the invasive procedure without hindering the imaging or magnetic field and to provide feedback from the images to allow the magnets to maintain the desired orientation of the medical device



Regarding claims 23 and 24, Ritter et al. '671 discloses using a mathematical model written into a computer algorithm to determine the direction of the magnetic fields (col. 12, lines 1-63). Ritter et al. '671 also discloses using statistical plots to determine the direction of the applied magnetic field (col. 12 & 13, lines 49-67 & lines 1-8).

Therefore it would have been obvious to combine the modified invention of Matsutani '485 to include adjusting the direction of the magnetic field applied by the magnet units based upon a mathematical model or based upon a lookup table as taught by Ritter et al. '671. The motivation to do so would be to help the physician to make decisions about the time needed for various operations, thus helping the surgeon make decisions whether the magnetic assist is necessary on any given turn, thereby increasing the efficiency and effectiveness of the overall procedure.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellsworth Weatherby whose telephone number is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on (571) 272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW

Ellsworth Weatherby  
Examiner  
Art Unit 3768



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